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INSPEC - 1969 to date (INZZ)

Accession number & update

7316341, A2002-16-6130-025; 20020708.

Title

Azimuthal **anchoring** properties of nematic **liquid crystal** on UV-exposed polyimide layers.

Author(s)

Akiyama-H; Iimura-Y.

Author affiliation

Graduated Sch of Technol, Tokyo Univ of Agric & Technol, Koganei, Japan.

Source

Japanese-Journal-of-Applied-Physics-Part-2 (Letters)(Japan), vol.41, no.5A, p.L521-3, 1 May 2002. , Published: Japan Soc. Appl. Phys.

CODEN

JAPLD8.

ISSN

ISSN: 0021-4922.

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Publication year

2002.

Language

EN.

Publication type

J Journal Paper.

Treatment codes

X Experimental.

Abstract

The azimuthal **anchoring** properties of a nematic **liquid crystal** (LC) on two kinds of UV-exposed polyimide (PI) layers with different LC wettabilities have been examined. The azimuthal **anchoring** state of the PI layer showing a high LC wettability is revealed to be stronger than that showing a low LC wettability, which results from the strong LC adsorption state in the **polymer** showing a high LC wettability. These results indicate the important contribution of LC wettability to the azimuthal LC **anchoring** even in a photoalignment method. We also point out that the derivation of the azimuthal **anchoring energy** from a twist angle measurement is questionable due to the movement of the easy axis in a twisted nematic sample. (9 refs).

Descriptors

molecular-orientation; nematic-liquid-crystals; organic-compounds; wetting.

Keywords

azimuthal **anchoring** properties; nematic **liquid crystal**; UV exposed polyimide layers; wettabilities; photoalignment method; azimuthal **anchoring energy**; twist angle measurement.

Classification codes

A6130G (Orientational order of **liquid** crystals in electric and magnetic fields).
A6845 (Solid-fluid interface processes).

Copyright statement

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<http://dx.doi.org/10.1143/JJAP.41.L521>.

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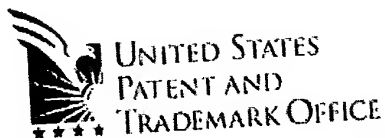
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INSPEC - 1969 to date (INZZ)

Accession number & update

7272523, A2002-13-6130-016; 20020520.

Title

Dynamics of **liquid crystal** azimuthal **anchoring** at a poly(vinyl cinnamate) interface measured in situ during polarized UV light irradiation.

Author(s)

Lazarev-V-V; Barberi-R; Iovane-M; Papalino-L; Blinov-L-M.

Author affiliation

Ist Nazionale di Fisica della Materia, Univ della Calabria, Rende, Italy.

Source

Liquid-Crystals (UK), vol.29, no.2, p.273-9, Feb. 2002. , Published: Taylor & Francis.

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Language

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Publication type

J Journal Paper.

Treatment codes

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X Experimental.

Abstract

An automated in situ technique for the measurement of the director reorientation at a nematic-aligning photosensitive **polymer** interface during polarized UV light irradiation has been developed. Using this technique, the photoinduced azimuthal **anchoring energy** (~ 20 merg cm /sup -2/) and the adsorption part of the latter (~ 7 merg cm/sup -2/) have been evaluated for the E7-poly(vinyl cinnamate) system. The kinetics of the director reorientation have been shown to be a very slow process (~ 1 h) and probably controlled by adsorption-desorption of **liquid crystal** molecules at the interface. (24 refs).

Descriptors

liquid-crystal-polymers; molecular-orientation; nematic-liquid-crystals;
ultraviolet-radiation-effects.

Keywords

liquid crystal azimuthal **anchoring**; poly vinyl cinnamate interface; polarized UV light irradiation; director reorientation; nematic aligning photosensitive **polymer** interface; photoinduced azimuthal **anchoring energy**; adsorption desorption; **liquid crystal** molecules; 1 h.

Classification codes

A6130E (Experimental determinations of smectic, nematic,

A6180B cholesteric, and lyotropic structures).
A6470M (Ultraviolet, visible and infrared radiation effects).
(Transitions in **liquid** crystals).

Numerical indexing

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